

# Botanical Identification of the Wood of the Large Kohau Rongorongo Tablet of St Petersburg

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## INTRODUCTION

ABOUT TWENTY OBJECTS including *kohau rongorongo* tablets, a staff, crescent-shaped pectorals and a depiction of a birdman, all bear the signs of what linguists today describe as “writing”. The presence of writing on tiny Easter Island, nestling in the heart of the Pacific Ocean, is still unexplained, and the question of its antiquity remains problematic. Although the  $^{14}\text{C}$  dating of the small St Petersburg tablet brought no satisfactory answer (Orliac 2005), the identification of the wood in the large St Petersburg tablet, preserved in the Peter the Great Museum of Anthropology and Ethnology (Kunstkamera), brings forth new food for thought.

## IDENTIFICATION OF THE WOOD IN THE LARGE ST PETERSBURG TABLET

The large St Petersburg tablet (inventory No. 403/13-2) weighs 717 grams, measures 61 cm in length, 14.2 cm in width and 2.2 cm in thickness; it is covered on both sides with 1540 glyphs (Fischer 1997:483). This *kohau rongorongo* was collected in Tahiti in 1871 by Nikolai Nikolaevich Miklukho-Maklai, a young scientist aged 26, on a mission in the Pacific for the Russian Imperial Geographical Society (Fischer 1997:32). In all likelihood, this object was not collected on Rapa Nui but was given to Miklukho-Maklai by Monsignor Jaussen, the bishop of Tahiti (Fischer 1997:37).

First, macroscopic observations with a stereo microscope were carried out on the tablet's surface. Then eight samples, each a few millimeters long and wide, and a few tenths of millimeters thick, were removed by the author with a razor blade, with the permission of the museum director and those responsible for the collections (Figure 1). These samples were oriented perpendicularly to the axis of the tree (transverse section), perpendicularly to the wood's rays (tangential section), and parallel to the rays (radial section) (Orliac 2004:11). They were then observed through an optical microscope at enlargements of 100 to 1000 times. The botanical identification was made by the author through comparison with reference samples kept in the collections of the Museum National d'Histoire Naturelle in Paris.

The anatomical features observed in the extracted samples show that this *kohau rongorongo* was carved from

the wood of a conifer: *Podocarpus* sp. L'Hérit ex Pers (Taxaceae; *Podocarpaceae*) (Figure 1).

*Podocarpus* does not grow on Easter Island. This genus has a broad geographical distribution (Dallimore and Jackson 1954:58), especially in the tropical and subtropical regions of Africa, China, Japan, India, Asia, Oceania and South America. It comprises 94 species (Mabberley 1997:571), some of which are native to Chile, Peru and New Zealand. *Podocarpus latifolius* R. Brown (*Eupodocarpus*) (Dallimore and Jackson 1954:72) is widely distributed in southern Africa where it provides timber of excellent quality. It is also found in India, where its wood is slightly fragrant<sup>1</sup> (Gamble 1972:702; The wealth of India 1979:170). Several species of *Podocarpus* grow in New Zealand, including *Podocarpus ferrugineus* D. Don (*Stachycarpus*) (Dallimore and Jackson 1954:68; Rendle 1970:162) known as *miro* in the vernacular; in eastern Polynesia, *miro* is a generic term designating “wood”, but it is also the name of *Thespesia populnea* in most of the Polynesian archipelagos. The wood of *Thespesia populnea* is often used for engraving *rongorongo* signs (Orliac 2005). *Podocarpus ferrugineus* provides a solid timber much used in marine carpentry (especially for making ships' masts), like *Podocarpus totara* D. Don (*Eupodocarpus*) with a hard red wood<sup>2</sup> (Dallimore and Jackson 1954:83; Rendle 1970:168; Usher 1974), likewise with a broad distribution in New Zealand.

## OTHER KOHAU RONGORONGO TABLETS MADE FROM THIS WOOD

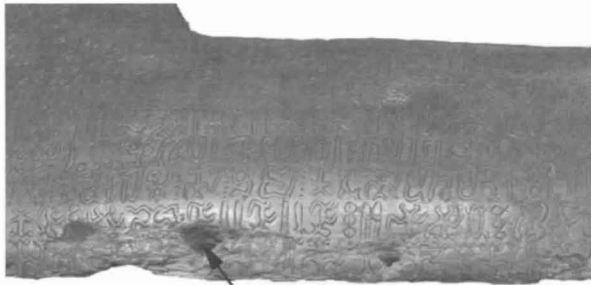
In his 1934 article entitled *Les bois employés dans l'Île de Pâques*, Henri Lavachery mentions that Professor Paul Rivet, director of the Musée de l'Homme, had decided, “at the beginning of 1933, to collect together wood samples from various tablets, as well as, for comparison, from all the wooden objects from the island which could be obtained. Hence about fifteen samples were collected, not without difficulty”. Among these samples were those taken from the tablet known as the “Échancrée” and from the small Vienna tablet (Lavachery 1934:70).

The first of these tablets, known as the “Échancrée” because of its particular shape, measures 30 cm in length and 15 cm in width (Fischer 1997:421) and 2 cm in thickness; it belonged to the collection of Monsignor Jaussen and

<sup>1</sup> *Thespesia populnea* (Malvaceae) is a fragrant wood often used for *kohau rongorongo*; it is called “rosewood of Oceania”.

<sup>2</sup> In eastern Polynesia, wood for sculpture is often chosen for its color; red is preferred because it is the color of the gods.

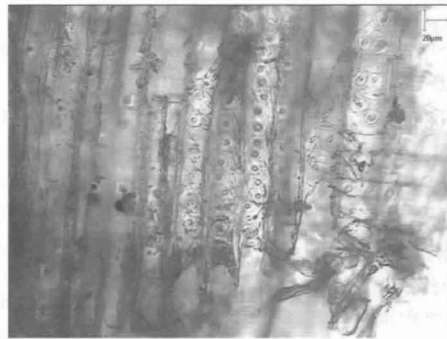
## BOTANICAL IDENTIFICATION OF THE WOOD OF THE LARGE KOHAU RONGORONGO TABLET OF ST PETERSBURG



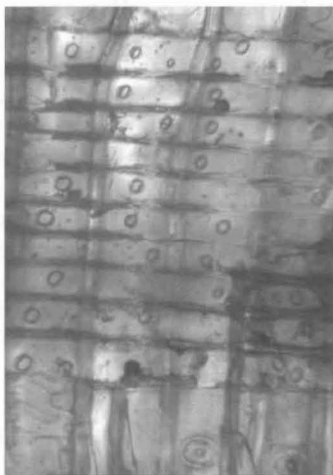
Location of sample removal



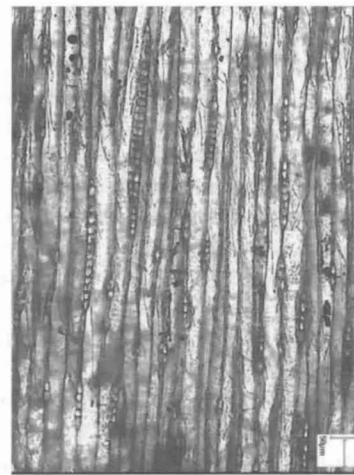
Detail of the great St Petersburg tablet



Radial section : Tracheid fiber



Radial section : Cross pits



Tangential section : Rays

Figure 1. Wood of *Podocarpus* sp. (Taxaceae, Podocarpaceae). Photos: M. Orliac, C. Gill and C. Orliac.

was doubtless picked up by Fathers Roussel and Zumbohm on Rapa Nui around 1869. This object, currently housed in the Musée de Tahiti et des Îles, is covered on both sides with 270 glyphs (Fischer 1997:421).

The second *kohau rongorongo*, known as the "small Vienna tablet" is located in the Museum für Volkerkunde in Vienna, with inventory number 22870. It measures 25.5 cm long, 5.2 cm wide and 2 cm thick. This tablet, which bears 230 glyphs, was brought back from Tahiti by the German consul, Mr Schlubach, who obtained it, in 1882, from Alexander Salmon, the uncle of his Tahitian wife (Fischer 1997:500-501).

The samples taken from these two tablets were entrusted to the Muséum National d'Histoire Naturelle in Paris. The botanical identifications were carried out by M. L. Conrard, assistant in the Phanerogamy laboratory, and by Professor M. A. Guillaumin (Lavachery 1934:69). The analyses by these two scientists concluded that these tablets are carved in *Podocarpus latifolia* wood.

In the same article, Henri Lavachery also published the identification of the wood of the large Washington tablet, carried out by M. Watkins, Assistant Curator of Wood Technology, at the National Museum of Natural History; this information was sent to him by Miss Harrison (Lavachery 1934: 70). This *kohau rongorongo*, inventory number 129774 in the collections of the National Museum of Natural History (Smithsonian Institution), measures 63 cm in length, 12 cm in width and 1.6 cm in thickness; it was brought back from Rapa Nui by Thomson in 1890. Partly burnt, it is covered on both sides with 1200 glyphs, 730 of which are identifiable (Fischer 1997:472). The analyses by Watkins also concluded that the large Washington tablet is carved in a *Podocarpus latifolia* wood.

The identifications carried out by the author, as well as those done in 1933 by Conrard, Guillaumin and Watkins, show that these four *kohau rongorongo* tablets are carved in wood of *Podocarpus* sp., perhaps *P. latifolia*.<sup>3</sup> Palynological and anthracological studies (Flenley et al. 1991; Orliac 2000) make it possible to state that no *Podocarpus* ever grew on Rapa Nui. So this material arrived by sea: is it a piece of driftwood from the shores of a far-off continent? A fragment of wreck brought by the waves? The remains of an emergency repair during a ship's stopover? Or, perhaps it represents the remains of the three crosses raised at Poike by the Spanish in 1770 when they took possession of the island. In any case, the fact that these four objects are carved in the same wood poses the question of their contemporaneity; it is hard to imagine that exceptional circumstances made it possible, on four occasions, to bring the same material to the island; the hypothesis that these tablets were carved from the same piece of wood, in approximately the same period, thus seems plausible.

<sup>3</sup> The samples taken by the author from the large St Petersburg tablet were very small, and thus it was not possible to identify the *Podocarpus* species with any certainty.

## DRIFTWOOD: A PRECIOUS MATERIAL

The choice of driftwood for carving these *kohau rongorongo* tablets is not insignificant, because this material was highly sought after. After the forest disappeared, the timber that was deposited on the shores by the benevolence of the gods became sacred. Archaeological research has shown that the previously lush vegetation of Rapa Nui was abruptly and dramatically impoverished by the 17<sup>th</sup> century (Orliac 2000). Wood was then sorely lacking, and any beaching of this "precious" material appeared to the islanders as a present from the gods. This element appears clearly in certain Rapanui legends, especially that of Rano: this old man, after his death, was transformed into a majestic tree which the waves deposited on the beach close to *ahu Tongariki*: its branches were cut up to carve "statuettes, dance paddles, lizards and paddles" (Métraux 1971:376).

## CONCLUSION

The xylological analyses carried out on the large St Petersburg tablet show that this *kohau rongorongo* was made with the wood of a *Podocarpus*, as were the tablets known as the "Échancrée", the small Vienna tablet and the large Washington tablet. This conifer never grew on Easter Island, and doubtless comes from a makeshift repair, the beaching of a tree on one of the island's shores, unless it is a relic of the crosses raised by the Spanish at Poike! Exotic woods, those gifts from the gods of inestimable value, were particularly suitable for engraving the sacred signs of the Rapanui writing. The fact that these four *kohau rongorongo* are carved in the same material makes it possible to put forward the hypothesis that they were carved from the same piece of wood, doubtless more or less at the same time. They are not carved in the rosewood of Oceania (*Thespesia populnea*) unlike seven other tablets (Orliac 2005) which could indicate that they date from the period when the island's flora was too impoverished to provide enough *Thespesia*; this was the case at the 17<sup>th</sup> century. Only <sup>14</sup>C dates could bring a definitive answer to this primordial question.

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